State Expert Appraisal Committee, Punjab

Ministry of Environment and Forests, Government of India

O/O Punjab Pollution Control Board,
Vatavaran Bhawan, Nabha Road,
Patiala – 147 001
Telefax:- 0175-2215802

No. SEAC/177/31193 **Dated 22/9/2009**

Speed Post

To

Er. Devinder Singh,
Divisional Engineer (PH-I),
Greater Mohali Area Development Authority,
PUDA Bhawan, Sector-62,
SAS Nagar (Mohali).

Sub: Application for grant of environmental clearance to set up Common Municipal Solid Waste Management Facility (CMSWMF) by Greater Mohali Area Development Authority (GMADA) of 200 Ton/day for 20 years.

This has reference to your application for grant of environmental clearance for Common Municipal Solid Waste Management Facility (CMSWMF) of 200 Ton/day for 20 years. The case was considered in the 28th meeting of State Expert Appraisal Committee held on 5/9/2009.

During meeting, the Committee members observed that the project proponent had provided adequate and satisfactory clarifications and decided to categorize the project into category B-1. After the detailed deliberations on the project, the Committee decided to issue Terms of Reference (TOR) for the 3 sites proposed by GMADA.

However, M/s National Productivity Council, the consultant of the GMADA, vide letter dated 10/9/2009 informed that Site-1 and Site-2 may not meet the total parameters required for clearance under EIA, being in proximity of highway and inhibited areas. As such, NPC requested to issue TOR for the Site-3 as it appears to be more suitable site at the present moment. The Rapid EIA Study of the other two sites will only be

undertaken, if the proposed site does not fulfill the required criteria. Accordingly, it was decided to issue following Terms of reference for the Site-3 only i.e. in Vill. Swara, Rasnheri and Jhanjeri on left hand side of approach road to Vill. Swara on SAS Nagar-Sirhind Road :-

1. The selection of landfill sites shall be based on examination of environmental issues.
2. The landfill site shall be planned and designed with proper documentation of a phased construction plan as well as a closure plan.
3. The landfill sites shall be selected to make use of nearby wastes processing facility. Otherwise, wastes processing facility shall be planned as an integral part of the landfill site.
4. Biomedical wastes shall be disposed off in accordance with the Bio-medical Wastes (Management and Handling) Rules, 1998 and hazardous wastes shall be managed in accordance with the Hazardous Wastes (Management and Handling) Rules, 1989, as amended from time to time.
5. The landfill site shall be large enough to last for 20-25 years.
6. The landfill site shall be away from habitation clusters, forest areas, water bodies, monuments, National Parks, Wetlands and places of important cultural, historical or religious interest.
7. A buffer zone of no-development shall be maintained around landfill site and shall be incorporated in the Town Planning Department's land use plans.
8. Landfill site shall be away from airport including airbase. Necessary approval for airport or airbase authorities prior to the setting up of the landfill site shall be obtained, in cases where the site is to be located within 20 km of an airport or airbase.
9. Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles or other modes of transportation.
10. The landfill site shall be well protected to prevent entry of unauthorized persons and stray animals.

11. Approach and other internal roads for free movement of vehicles and other machinery shall exist at the landfill site.
12. The landfill site shall have wastes inspection facility to monitor wastes brought in for landfill, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipments.
13. Provisions like weigh bridge to measure quantity of waste brought at landfill site, fire protection equipments and other facilities as may be required shall be provided.
14. Utilities such as drinking water (preferably bathing facilities for workers) and lighting arrangements for easy landfill operations when carried out in night hours shall be provided.
15. Safety provisions including health inspections of workers at landfill site shall be periodically made.
16. In order to prevent pollution problems from landfill operations, the following provisions shall be made :-
    a) Diversion of storm water drains to minimize leachate generation and prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions;
    b) Construction of a non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes, batteries, waste oils, paint products and pesticides) minimum liner specifications shall be a composite barrier having 1.5 mm high density polyethylene (HDPE) geomembrane, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than 1 x 10-7 cm/sec. The highest level of water table shall be at least two metre below the base of clay or amended soil barrier layer ;

c) Provisions for management of leachates collection and treatment shall be made. The treated leachates shall meet the standards specified in Schedule–IV appended with the Municipal Solid Wastes (Management & Handling) Rules, 2000.

d) Prevention of run-off from landfill area entering any stream, river, lake or pond.

17. Specifications for land filling given in the Municipal Solid Wastes (Management & Handling) Rules, 2000 shall be followed.

18. Before establishing any landfill site, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality within 50 metres of the periphery of landfill site shall be periodically monitored to ensure that the ground water is not contaminated beyond acceptable limit as decided by the Ground Water Board or the State Board or the Committee. Such monitoring shall be carried out to cover different seasons in a year that is, summer, monsoon and post-monsoon period.

19. Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) is to be considered after ensuring its quality. The following specifications for drinking water quality shall apply for monitoring purposes, namely :-

Sr.No.	**Parameters**	**IS 10500:1991 Desirable limit (mg/l except for pH)**
1	Arsenic	0.05
2	Cadmium	0.01
3	Chromium	0.05
4	Copper	0.05
5	Cyanide	0.05
6	Lead	0.05
7	Mercury	0.001
8	Nickel	-
9	Nitrate as	NO3 45.0
10	pH	6.5-8.5
11	Iron	0.3
12	Total hardness (as CaCO3)	300.0

13	Chlorides	250
14	Dissolved solids	500
15	Phenolic compounds (as C6H5OH)	0.001
16	Zinc	5.0
17	Sulphate (as SO4)	200

20. Installation of landfill gas control system including gas collection system shall be made at landfill site to minimize odour generation, prevent off-site migration of gases and to protect vegetation planted on the rehabilitated landfill surface.

21. The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).

22. The landfill gas from the collection facility at a landfill site shall be utilized for either direct thermal applications or power generation, as per viability. Otherwise, landfill gas shall be burnt (flared) and shall not be allowed to directly escape to the atmosphere or for illegal tapping. Passive venting shall be allowed if its utilisation or flaring is not possible.

23. Ambient air quality at the landfill site and at the vicinity shall be monitored to meet the following specified standards, namely :-

Sr.No.	**Parameters**	**Acceptable level**
1	Sulphur dioxide	120µg/m3 (24 hours)
2	SPM	500µg/m3 (24 hours)
3	Methane	Not to exceed 25 per cent of the lower explosive limit (equivalent to 650 mg/m3)
4	Ammonia daily average (sample duration 24 hrs)	0.4 mg/m3 (400 µg/m3)
5	Carbon monoxide	1 hour average : 2 mg/ m3 8 hour average : 1mg/m3

24. A vegetative cover shall be provided over the completed site in accordance with the following specifications, namely :-

(a) Selection of locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be allowed to grow;

(b) The plants grown be such that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilised ;

(c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;

(d) Plantation to be made in sufficient density to minimize soil erosion.

25. The post closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely :-

(a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(b) Monitoring leachate collection system in accordance with the requirement;

(c) Monitoring of ground water in accordance with requirements and maintaining ground water quality ;

(d) Maintaining and operating the landfill gas collection system to meet the standards.

26. Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous and leachate analysis comply with the specified standards.

The authorities concerned should prepare draft rapid EIA / EMP Report for its project based on above Terms of Reference and apply to the Chairman, Punjab Pollution Control Board for conducting public hearing as per the provisions of EIA Notification, 2006 on submitting EIA / EMP / Executive Summary Report prepared by the industry as per TORs.

After completing the process of public hearing / public consultation, the authorities concerned should submit final EIA / EMP to the State Expert

Appraisal Committee after incorporating all the issues raised during public hearing / public consultation for Appraisal of its project.

(Malvinder Singh)
Secretary (SEAC)

Endst. No. _____ **Dated _____**

A copy of the above is forwarded to the following for information and necessary action :-

1. The Secretary to Govt. of India, Ministry of Environment & Forests, Govt. of India, CGO Complex, Lodhi Road, New Delhi.
2. The Director, Northern Regional Office, Ministry of Environment & Forests, Bays No. 24-25, Sector 31-A, Dakshin Marg, Chandigarh.
3. The Member Secretary, State Environment Impact Assessment Authority, O/o Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala.
4. The Member Secretary, Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala.
5. The Senior Environmental Engineer (Computer), Punjab Pollution Control Board, Head Office, Patiala. He is requested to display the approved Terms of Reference given to the industry on the website of State Environment Impact Assessment Authority.

(Malvinder Singh)
Secretary (SEAC)